by the gastric juices. It was lying coiled up, the head being nearer to the anal region. The body of the arachnid was digested; only remains being of the head, which was unaffected, because of its chitinous nature. Probably the lizard was captured shortly before the frog was chloroformed.

The capture of the *Uromastix,* by the frog can be explained, because of its sluggish condition in the winter, but the capture of the *Galeodes* is difficult to be explained for it is extremely active and can cover ground very fast, and so at first sight it would appear somewhat strange how such a fast creature should fall a victim to a comparatively slow moving batrachian.

Preying by a large frog on a smaller one is quite common but I do not know whether the *Uromastix* and *Galeodes* are also normally included in the menu of the frog.

Birla College,
Pilani, ISHWAR PRAKASH, M.Sc.,
March 30, 1953. *Research Scholar.*

[Among the varied dietary of the Bull Frog (*Rana tigrina*) the following items have been recorded in notes published in previous journals from time to time—mouse, young ground thrush, fully grown sparrow, chicken, snipe, pitta, land crab, toad, rat snake about 3 feet long, scorpion and the caterpillar of the Psychid moth together with its case of babool spines.—Eds.]

28. NEW LOCALITY RECORD OF *RANA HEXADACTYLA* LESSON

While examining a collection of frogs and toads from Goa, brought in by Mr. L. B. Nogueira, an assistant in the Museum, I came across a number of specimens of *Rana hexadactyla* Lesson in various stages of development.

The distribution of this species is restricted to South India and Ceylon [Boulenger (1890 and 1920) Fauna Volume 'Reptila and Batrachia' 441-42] and his subsequent 'Monograph of the South Asian, Papuan, Melanesian and Australian Frogs of the Genus *Rana*'. *Rec. Ind. Mus.*, XX, 10-12.

Bhaduri (1933 and 1943) recorded this species twice from Bengal [*J.B.N.H.S.*, xxxvi, 514; ibid. xliv, 484] and McCann (1934) has a note on its occurrence in Bombay (ibid. xxxvii, 742). We have in our collection a couple of specimens (donated by Ingoldby) from Waziristan.

As far as is known this is perhaps the first record of this species from Goa and this together with the former ones, goes to show that *Rana hexadactyla* Lesson is not so very limited in its range as is commonly believed, but seems to compete with its congener *Rana cyanophlyctis* Schneid., which enjoys a very wide distribution in Peninsular India. Some more records from varied localities are, however, needed to confirm this.

Rana hexadactyla Lesson owing to its more secretive nature and greater degree of camouflage-perfection eludes observation and capture. Both the species, however, never leave water.

114, Apollo Street,
Bombay,
June 1, 1953.

V. K. CHARI,
Assistant Curator.

29. APOSEMATIC INSECTS AND THEIR FOOD PLANTS

Mr. Sevastopulo's comments (*J.B.N.H.S.*, 50, p. 951) on Mr. Winter-Blyth's remarks dealing with the possible interrelation between aposematic insects and their food plants interested me greatly, and called to mind some observations made in the field some years ago. At the time, I speculated on the possibility of the food plants imparting the protective odours emitted by such insects, but did not commit my observations to paper. I saw no valid reason why the offensive or otherwise noxious properties of the food plants should not be reflected by the individuals feeding on them. How often has it been noted that edible water-fowl when feeding on certain aquatic vegetation are distasteful, which, at other times are delicious? This is particularly true of wild duck.

Some years ago a note was published in the *Journal* describing the 'poisonous' effect on humans who had eaten fish which in their turn had fed on the fruit of the *Kalaw* (*Taraktogenos* sp.). The fish acquire the poisonous qualities only at the time when they feed on the *kalaw* fruit, and are perfectly wholesome at other seasons. Here we have an instance of the food imparting its poisonous qualities to the flesh of the fish without otherwise affecting the fish in the least. Similarly I think it is well-known that the body odours of mankind (apart from the deliberate application of external scents) very often reflect the diet of a particular individual or community. For example, garlic (*Allium ursinum*) or *methi* (*Trigonella foenumgraecum*) if eaten regularly is 'sweated out' and gives a distinctive body odour. Some other edible substances produce the same result. Similarly, people who consume much vegetable oil 'exude' the oil, and the skin looks 'oily'. From such examples it seems clear that the food plays an important part in producing particular odours. Perhaps during the process of digestion some of the odoriferous substances become more concentrated and are exuded through the skin. The constitution of aposematic insects possibly have special means of concentrating these substances and using them to advantage by storing them in special organs or cells. However, here I must leave generalizations and turn to specific instances.

Aularches miliaris : The colouration of this grasshopper is well-known and therefore needs no description. The nymphs of the species display more black and red ; the green and yellow markings, are absent. The nymphs, like the adults are gregarious, but more so. They collect